and it is obvious that much further research work is required.

In all operable cancerous growths it is evident that surgery must still be the first choice. Radiotherapeutic measures do not at present offer the patient so good a chance of obtaining freedom from the disease as does surgery, but radiation should be employed after the operation to supplement the effort of the surgeon by diminishing the tendency to recurrence. It was admitted by all that the best treatment in the majority of cases of cancer at the present time is this combination of surgery and x-rays or radium rays, or even a combination of the three.

Dr. Russ reports the attempt to induce immunity and thus check the growth of cancer by another method. This method is based upon the accumulating evidence that the body in cancer possesses some power of protecting itself against the disease, and that the production of immunity is in some way bound up with cancer cells and can experimentally be induced by irradiating cancer cells within the body. To attain these ends a method has been introduced which briefly is as follows. The growth is removed surgically, minced with the strictest aseptic precautions, and given a suitable dose of radiation. A small amount of the resulting pultaceous mass is then introduced beneath the skin. The hope is that in this way a degree of immunity in cancer patients may be induced. This plan is at present on trial and certainly deserves very careful consideration.

NOTE:—This work was presented before the Medical Society here last year.

THE EFFECT ON THE KIDNEY OF THE MODERN TREATMENT FOR SYPHILIS

THE effect on the kidney of the modern treatment for syphilis has been considered carefully in theses for graduation submitted to the faculty of the University of Minnesota by Dr. A. R. Macfarlane, a copy of which appears in the April number of the *American Journal of the Medical Sciences*. The treatment for syphilis resolves itself largely into the use of mercury and arsphenamine both of which seriously irritate the renal parenchyma, interfere with its activity, and are liable to induce a temporary pathological condition with degeneration of the tubular epithelium, as indicated by the presence of casts, albumin, and pus in the urine and a definite interference with normal renal function. The writer in this paper presents us with a statement of what he has observed of the action of these antisyphilitic drugs on normal and abnormal patients, the relative damage done to each, and the relative permanency of the damage. Mercury seems to be the less desirable because of its slow action and high renal toxicity. Arsphenamine on the other hand has the advantage of rapid action on the spirochaetes and less toxicity on the kidney. In 271 courses given to 128 patients who had previously normal kidneys and who reacted definitely to treatment, 46 per cent. had hyaline and granular casts under combined arsphenamine and mercury treatment; 16 per cent. had a definite amount of albumin and 15 per cent. a marked increase in pus cells under intensive treatment. In no case, however, was there evidence of severe renal damage. During the course of treatment there was a tendency for the number of casts to increase as the treatment progressed, in 55 per cent. and to decrease in 20 per cent. It did not appear, however, that at the end of the course any serious renal damage resulted; provided a sufficient rest interval was allowed between the courses.

An attempt was made to determine the relative parts played by arsphenamine and mercury in this renal irritation.

It was found that marked renal irritation was decidedly more common in patients under mercurial treatment alone than under arsphenamine alone. When a period of one month or longer intervened between the mercurial courses only 20 per cent. had casts and albumin, whereas if the rest period was shorter 80 per cent. showed urinary changes.

It appears therefore that the kidney under noncumulative mercurial treatment practically recovers from extensive mercurialization about a month after the drug is stopped, and signs of renal irritation disappear completely if sufficient time is allowed between the courses.

Arsphenamine when properly prepared and given alone causes only slight irritation. Neo-arsphenamine causes even less.

Patients with damaged kidneys show a greater amount of reaction to the treatment, but with care recovery will be satisfactory. There is a tendency, however, for more severe reactions to occur as treatment progresses but if sufficient time for recuperation is given, no important renal damage is likely to ensue. Age as such is not a contra indication to treatment.

INFLUENCE OF ALCOHOL ON THE VITALITY OF THE RACE

THE opinion of the profession on the action of alcohol and on its value as a beverage, a food, and a therapeutic agent has varied greatly from age to age. During the middle of last century it was regarded not only as a valuable food but also under conditions of exhaustion and impaired nutrition, as a circulatory stimulant. This opinion, owing to the results of careful investigations by chemists and physiologists, has, during the few past decades, been greatly modified, if not altogether reversed.

A new phase, however, of the action of alcohol on racial development has been placed before the profession by Dr. Charles Stockard of Cornell University, who asks in a recent article, (*American Journal of Medical Sciences, April, 1924,*) whether the use of alcohol during past generations has actually injured the physical and mental quality of the present generation, or whether its use in the past centuries, when it was taken in what we now regard as excessive quantities, has not actually benefitted the present generations by the elimination of elements tending to racial degeneracy? During the past thirteen years Stockard has conducted a continuous experiment with the object of determining whether severe alcoholism continued over a long period of time would modify the course of normal development, and whether such treatment would affect the germ cells of the species.

Guinea pigs were used as the animal material. More than 100 carefully selected pigs were systematically treated with alcohol for prolonged periods at a time, and the records are now available from their offspring, amounting to more than 5,000 animals. Pedigreed guinea pigs were used, obtained from eight different sources, and before the treatments were begun the animals were mated in order to test their fertility and the quality of offspring. They were then separated into control and experimental groups. To avoid the irritating effects of alcohol on the digestive tract it was administered by inhalation in special tanks to the point of intoxication for six days per week and for various lengths of time, to the animals selected. Several groups were treated for as long as six years and certain of these treated animals have lived to become more than seven years old, which is a long life span for a guinea pig.

Administered in this way alcohol does not appear to injure the health or activities of the treated guinea pigs or in any way shorten their life. The records, however, of the offspring and later descendants of these alcoholic guinea pigs, indicate that alcohol undoubtedly affects the germ cells in a very definite way.